

MS 3147/3/543
SCHEMES, PLANS & CALCULATIONS,
DESCRIPTIONS OF NEW MACHINES ETC. (1)
1774—1790

INTRODUCTION

Memoranda, notes and calculations on various engines, both Boulton & Watt's and other engineers, schemes for various applications of steam engines, etc., from 1774 to 1790.

1. Bundle cover.
Marked "Schemes, Plans & Calculations, Descriptions of new Machines etc. Calculations & particulars of the following engines and machines," followed by a list of the contents of the bundle.
2. Memorandum & Calculations re. London Bridge Water Works. Not dated.
In John Southern's hand? On the same sheet:
Estimate of the Expense of putting North Downs Mine to work, and getting a sale of Ores.
In Thomas Wilson's hand?
3. Memorandum & sketch. Sir Roger Newdigate's colliery engine – account of it from his bailiff. — 1776.
Winding engine at Oakthorpe Pit, Leicestershire.
4. Memorandum. Calculation relating to the Carron engine. Jun. 1775.
5. Memorandum. Experiments at Donnington Wood & Wren's Nest engines. 17 & 15 Sep. 1779.
6. Letter. Edward Brown (Denton) to Matthew Boulton (Soho Manufactory). 22 Jul. 1776.
Docketed "Account of Mrs. Montagu's engine." The sheet has been used for calculations.
7. Letter. John Buchanan (Soho) to James Watt [Harper's Hill?]. "Thursday Ev^g" [— Dec. 1782].
Docketed "Dimensions taken at pig mill by J. B."
8. Memorandum. Some dimensions of Forge Mills by Mr. Boulton. 1782.
Details of Wren's Nest and Coalbrookdale forges.
9. Memorandum. Estimate of the Intended Works at Spon Lane. 11 Dec. 1776.
Memorandum by S. Bull. Docketed as the Birmingham Canal Co.
- 10a. Memorandum. Mr. Fox's account of Polgooth Mine. — Jan. 1782.
Kept with (b) and (c) below.
 - b. Estimate of Polgooth. Jan. 1782.
Estimate of cost of an engine, clearing and repairing shafts and adits etc.
 - c. Estimate – Polgooth. Apr. 1782.
Similar estimate to the above.

11. Draft of letter. James Watt [Birmingham] to Thomas Wilson [Chacewater]. 5 Mar. 1779.
On the same sheet:
Memorandum. Account of the savings by Scorrier engine.
Docketed "Letter to Mr. Wilson and calculations."
12. Pencil sketch. Plan of Bateman's engine. 1787.
13. Memorandum. Account of the work done by the mills in Messrs. Goodwyn & Co.'s brewery. 1784.
14. Sketch. Malt mill at Messrs. Goodwyn & Co.'s brewhouse. 1784.
Marked "This is a reverse."
- 15a. Sketch. The liquor and cleansing mill at Messrs. Goodwyn & Co.'s brewhouse. 1784.
(b) below was added in the 1890s.
- b. Note taken from Goodwyn & Co.'s engine agreement.
In Henry Hazleton's hand.
16. Pen & wash drawing. A plan of Trial & New Pits near Whitehaven. "E. M." 13 May 1782.
17. Memorandum. Dr. Mills' Analysis of the Bovey Coal; Mr. Patch's distillation of the Bovey Coal the board kind, in glass. — Nov. 1780.
Docketed "Analysis of Bovey Coal from Mr. Galton."
- 18a. Letter. Thomas Calverley (Southwark) to Matthew Boulton (Soho). 4 Feb. 1778.
Enclosing (b) and kept with (c) and (d) below.
Docketed "Borough Water Works. Plan etc. New single."
- b. Pen & wash drawing. Plan of the Borough Water Works. 1778.
- c. Letter. William Burgess (53, The Borough) to Boulton & Watt [Soho]. 15 Aug. 1777.
On the same sheet:
Memorandum. Particulars of the Borough Water Works Engine.
- d. Sketch & notes. Section of the steam engine at Borough Water Works.
In Zaccheus Walker's hand.
19. Printed circular. John Rothwell's patent iron valve water-cocks. Not dated.
With engravings on the same sheet.
20. Transcripts. Transcripts of 2 memoranda about working an engine at Newark Colliery with different boilers. 21 Sep. 1774 & undated. 2 sheets.
The first memorandum was signed by John Anstruther, William Brown, Richard Brown, Gavin Hay [?], Henry Kenwick and James Kyd.
Docketed "Boiler with spiral flue said to work a 50 inch cylinder."
21. Letter. John Buchanan [Soho] to James Watt [Harper's Hill?]. — Dec. 1782.
Not dated – date taken from the docket.
Docketed "Bell's mill and some memorandums relating to Soho tilting hammer."
- 22a. Letter. James Weir (London) to James Watt [Birmingham]. 15 Aug. 1789.
Enclosing (b) below.
Docketed "Concerning his model."

- b. Memorandum. An Account of Weir's Improvement of the Steam Engine. 13 pages.
23. Printed booklet. "Proposals to the Adventurers in — by Boulton & Watt." 7 pages.
Marked at the top "Method of calculating tables for Wheel Maid 63 inch cylinder, double 9 feet or 18 feet stroke." Some of the details have been filled in.
Docketed "Calculations of savings on a 63 inch cylinder."
[This seven-page printed booklet was intended to form a standard basis for agreements between Boulton & Watt and Cornish mine adventurers. Various parts were blank so that details of individual engines could be filled in. It included details of the performance of the two Poldice engines, against which new engines would be measured.]
24. Letter. John Houghton [Birmingham] to James Watt (Harper's Hill). 23 Apr. 1790.
On the same sheet:
 Memorandum. Expense of Working & Repairing two Steam Engines belonging to the Birmingham and Birmingham & Fazeley Canal Navigation Co. at Smethwick.
Docketed as 1789.
25. Memorandum. Description of Trevenan Mine. Not dated.
In James Watt's hand. Originally docketed as Tresavean.

MS 3147/3/544
SCHEMES, PLANS & CALCULATIONS,
DESCRIPTIONS OF NEW MACHINES ETC. (2)
1769; 1781—1788

INTRODUCTION

Memoranda, notes and calculations on various engines, both Boulton & Watt's and other engineers, schemes for various applications of steam engines, etc., from 1774 to 1790.

1. Bundle cover.
Marked "Schemes, Plans & Calculations, Descriptions of new Machines etc.," followed by a list of the contents of the bundle.
- 2a. Printed leaflet. "A Plan of a new invented Engine... Invented by Thomas Hunt, of London, 1783."
- b. Drawing of Hunt's engine. May 1783.
Titled "A View of a Machine upon an intire new Construction, whereby Mills of every kind and for any purpose whatever, can be set to work in any place or situation, without having recourse either to Men, Horses, Wind or even a Stream of water. Invented by Thomas Hunt of London. Published According to Act of Parliament May 1783." [The drawing shows a crank engine.]
Docketed "Pretended invention. Thos. Hunt of London 1784."
3. Letter. David Watson (—) to James Watt [Soho]. — Jun. 1787.
On the same sheet:
 Pen & wash drawing of Watson's engine.
Docketed "D. Watson's scheme for a pillar engine."

- 4a.** Letter. Thomas Mitchell (58 Basinghall St., London) to Boulton & Watt (Birmingham). 18 Oct. 1787.
Enclosing (b) and (c) below.
Docketed "Plan of Mr. Mitchell's flame engine."
- b.** Printed circular. A new method of Raising Water for useful purposes, by rarifying and condensing the Air in several ways...
Docketed "New invention for raising water by fire without steam."
- c.** Printed circular. By His Majesty's Patents, granted to Thomas Mitchell of Perth. A new method of Raising Water for useful purposes, by rarifying and condensing the Air in several ways...
With an engraving on the same sheet.
- 5.** Memorandum. Extracts from the Marquis du Crest's Memoir. 1788. 11 pages.
The docket is on a separate sheet.
Memoire on water supply for Paris.
- 6.** Memorandum. Information of the Quantity of Water that must be raised to have a proper circulation through all the Canals at Amsterdam. By Mr. Eckhardt. Not dated.
Docketed "Amsterdam Canals. Entered."
- 7.** Sketch. Saw mill for Silas Dean. — 1786.
- 8.** Memorandum. Calculations of the power necessary to lift slimy mud from any given depth of water. Not dated.
In James Watt's hand.
- 9.** Memorandum. Dimensions etc. of Messrs. Cooke & Company's stills. 1786.
- 10.** Printed pamphlet (in French). Prospectus de la fourniture et distribution des eaux de la Seine, à Paris, par les machines à feu. 13 Oct. 1781. 26 pages.
- 11a.** Pen & wash drawings. Section of Mr. Westgarth's engine for raising water at Colclough Lead Mine. Jun. 1787.
Sent with (b) below.
Docketed "Sent by Mr. Hamilton."
- b.** Memorandum. Explanation of the Section of Mr. Westgarth's water engine.
- 12.** Printed circular. Description of John Chinn of Tewkesbury's machine for raising and returning water out of a mill tailrace. 1787.
- 13.** Memorandum. John Rennie's observations on paper mills. Aug. 1784. 13 pages.
Notes and calculations on a mill near Tamworth; mill at Elford 28 Aug. 1784; Yewel paper mill 30 Aug. 1784; Borley paper mill.
For a transcript of this see folios 1—3 of Watt's calculation book 1784 & 1789.
- 14.** Memorandum. Account of Chichester corn mills by Mr. Menza [?]. Mar. 1789.
Description of Michael Kingsford's mill, Sidlesham; William Souter's mill; mill belonging to the Government in Portsmouth; Mrs. Bowden's mill, Gosport.
- 15.** Sketch. Mr. Linnow's machine for raising water. 1782.
- 16.** Memorandum. Bedford Level notes. Not dated.

17. Memorandum. Mr. William Wilkinson's account of the iron made in France. 5 Feb. 1787.
18. Printed circular. Address and proposals from Sir John Dalrymple Bart. on the subject of the Coal, Tar, and Iron Branches of Trade. Jun. 1784.
19. Printed pamphlet. "Mr. Cummins' Book upon Sawing Timber." 6 Apr. 1769. 15 pages. *Cover missing. Docketed "Mr. Cummin's Book upon Sawing Timber."*
20. Letter. George Wolff (Albion Mill) to Boulton & Watt (Birmingham). 7 Apr. 1787. *Docketed "Account of the Surtarbrand [a fossil]."*
21. Sketch. Lord Dundonald's tar ovens. 1784.
22. Printed circular (in French). Formes et conditions de l'Assurance proposée contre les Incendies par Messieurs Perier frères & Compagnie. 1786.
23. Printed circular (in Dutch). Programma van het Bataafsch Genootschap der proefondervindelyke wysbegeerte te Rotterdam. 1784.
24. Memorandum. Prize Questions proposed by the Batavian Society of Experiment Philosophy, Rotterdam. 9 Aug. 1784. 2 sheets. *Question re. using engines for drainage.*
25. Printed circular. Account of a machine constructed for the purpose of deepening and scouring canals, rivers and ports. Newly invented by the brothers F. and A. Eckhardt. 1785. *With an engraving on the same sheet.*
- 26a, b. Printed circular. Succinct account of the advantages of mills with inclined float-board-wheels. Used for the draining of marshes. Invented by Mr. A. G. Eckhardt. 1785. *2 copies. With an engraving on the same sheet.*
27. Calculations. Estimate of a method to supply water from the Serpentine River in Hyde Park, for watering that of Piccadilly which extends from the turnpike to Berkeley Street, by means of pipes and an engine fixed on the inside of the park wall near the said turnpike. Not dated. 3 sheets.
28. Sketch. Kestel Adit Mine. By William Murdock. Jun. 1781.
- 29a. Transcript of extract of letter. ? (Italy) to Matthew Boulton [Soho]. Not dated. *Kept with (b) below. Docketed "Letter concerning a new mechanical invention."*
- b. Letter (in French). Chevalier W— (—) to Matthew Boulton [?] [Soho]. 21 Mar. 1783.

MS 3147/3/546
JOHN BUCHANAN – EXPERIMENTS ON THE FORGE ENGINE
AT SOHO MANUFACTORY
1783

INTRODUCTION

Notes and letters sent by John Buchanan to James Watt in 1783, recording the performance of the experimental forge engine at Soho Manufactory. The notes record consumption of coals, evaporation of water, number of strokes made, general performance of the engine etc.

1. Letter. John Buchanan (Soho) to James Watt (Harper's Hill). "Wednesday".
On the same sheet:
Notes of 2 experiments on the engine.
Docketed "Accounts of experiments on forge engine Sep. 1783."
2. Note. John Buchanan (Soho) to James Watt [Harper's Hill]. "Thursday night" [11 Sep. 1783].
Marked by Watt "With steam in the case."
3. Note. John Buchanan (Soho) to James Watt [Harper's Hill]. "Friday evening" [12 Sep. 1783].
Marked by Watt "Without steam in the case."
4. Letter. John Buchanan (Soho) to James Watt (Harper's Hill). "One o'clock" [20 Sep. 1783].
5. Letter. John Buchanan (Soho) to James Watt (Harper's Hill). 22 Sep. 1783.
6. Letter. John Buchanan (Soho) to James Watt (Harper's Hill). "½ past 7 o'clock" [24 Sep. 1783.]
7. Letter. John Buchanan (Soho) to James Watt (Harper's Hill). "Wednesday Ev^g".
Marked by Watt as 25 Sep., which was a Thursday.
Docketed "Account of experiments on the forge engine Sep. & Oct. 1783."
8. Letter. John Buchanan [Soho] to James Watt (Harper's Hill). "7 o'clock" [26 Sep. 1783].
9. Note. Performance of the engine. 1 Oct. 1783.
10. Note. Performance of the engine. 10 Oct. 1783.
11. Letter. John Buchanan (Soho) to James Watt (Harper's Hill). "Monday Mor^g" [20 Oct. 1783?].
The letter concerns insurance valuation of the Engine Works. On the same sheet:
Note by Buchanan of performance of the engine, dated by Watt as Sat. 18 Oct."
12. Note. Performance of the engine. 20 Oct. 1783.
13. Note. John Buchanan (Soho) to James Watt [Harper's Hill]. 24 Oct. 1783.
On the same sheet:
Note. Performance of the engine. 23 Oct. 1783.

14. Note. John Buchanan (Soho) to James Watt (Harper's Hill). "Friday afternoon" [24 Oct. 1783].
15. Note. John Buchanan [Soho] to James Watt (Harper's Hill). "Monday Morning" [27 Oct. 1783].
On the same sheet:
Note. Performance of the engine. 25 Oct. 1783.
16. Note. Performance of the engine. 27 Oct. 1783.
17. Letter. John Buchanan (Soho) to James Watt (Harper's Hill). "Wednesday mor^g" [29 Oct. 1783].
On the same sheet:
Note. Performance of the engine. 28 Oct. 1783.
18. Note. Performance of the engine. 30 Oct. 1783.
19. Note. John Buchanan [Soho] to James Watt (Harper's Hill). "Monday ev^g".
20. Note. John Buchanan (Soho) to James Watt [Harper's Hill]. "Saturday ev^g".
21. Note. John Buchanan [Soho] to James Watt (Harper's Hill). "Sat^y. night".
22. Note. John Buchanan [Soho] to James Watt (Harper's Hill). "¼ past 7 o'clock".
23. Note. John Buchanan [Soho] to James Watt [Harper's Hill]. "½ past 6 o'clock".

MS 3147/3/548

“... REPORTS... MENTS RELATIVE TO... CONNECTED THEREWITH” (PAPERS ABOUT NEWCASTLE AND LEEDS ENGINES, SUGAR MILLS) 1790—1798

INTRODUCTION

Memoranda relating to engines in the Newcastle upon Tyne area sent by Thomas Barnes, from 1791 to 1798. The bundle also includes a memorandum on engines in the Leeds area by James Lawson dating from 1797, and notes on sugar mills by James Watt from 1790.

1. Bundle wrapper.
The top has been torn away. The following fragments of the original title can be made out: “...Reports... ments Relative to... connected therewith,” followed by a list of contents of the bundle.
2. Memorandum. Comparative Estimate of the Annual Expense of drawing the Water of Walker Colliery from the depth of 91 fathoms . By Thomas Barnes. Jul. 1791.
Comparison of a Boulton & Watt engine and a common engine. On the same sheet: List of parts of Winding Engines which have generally been prepared at Newcastle. Docketed “Mr. Barnes’ Comparative Estimate of Boulton & Watt’s and the common engine in point of annual expenditure.”

3. Memorandum. Report on sundry Engines of Messrs. Boulton & Watt's construction in the Vicinity of Newcastle upon Tyne. By Thomas Barnes. Jan. 1798. 8 pages.
The docket is on a separate wrapper.
Report on the Walker Colliery pumping engine with an addendum of 20 Mar.; Willington rotative engine, examined 17 Jan. 1798; Heaton rotative engine; Wall's End engine; Lawson Main; Messrs. Grimshaw & Co.'s engine at Sunderland; Mr. Pickernell's boat engine; Small engines wanted.
4. Memorandum. Account of wear & tear of Rope in raising coal from the undermentioned collieries near Newcastle upon Tyne. By Thomas Barnes. Jan. 1798.
5. Memorandum. Rough draft of Instructions for George Taylor. Jul. 1798. 2 sheets.
Docketed "General instructions for the management & repairs of the Newcastle engines." Instructions working rotative engines, and notes on Wall's End, Heaton, Willington, Cowpen, Hepburn, Sheriff Hill, Pontop Pike and Rainton engines.
6. Memorandum. Estimate of the Expense of drawing coal at the King Pit in Walker Colliery. By Thomas Barnes. Jul. 1798.
7. Memorandum. Number of engines at Newcastle upon Tyne. 1797.
Lists Boulton & Watt and common engines used for pumping and winding.
8. Memorandum. Mr. Hodgson's note of consumption of coals at Cowpen by the 72 inch cylinder engine. Jul. 1798.
9. Memorandum. James Lawson's memorandums of Leeds engines. 1797.
Lists 11 engines and details the machinery they are driving.
Docketed "Say performances of ditto."
10. Rough sketch & notes. Memorandums about sugar mills. By James Watt. 1790.
The memorandum is written on the same sheet as the following:
Letter. Samuel Whitbread [London] to James Watt (6 Green Lettice Lane). 28 May 1790.

MS 3147/3/549
"STATEMENTS CALCULATIONS & GENERAL INFORMATION
RELATIVE TO VARIOUS OBJECTS OF MANUFACTURING
& COMMERCIAL SPECULATION"
1795, 1801

INTRODUCTION

Two memoranda found in an original bundle wrapper. The items are in the order they are listed on the bundle wrapper.

1. Bundle wrapper.
Marked "No. 5 Statements Calculations & General Information relative to various Objects of Manufacturing & Commercial Speculation," followed by a list of the two items contained in this bundle.

2. Memorandum. Copy of a statement relative to a Coal & Iron Work in the County of Staffordshire communicated by Mr. Crummer for Mr. Watt's Opinion. 2 Oct. 1801. *Concerning a works proposed to be built at Gorscote.*
3. Calculations. Expense of Carriage of Iron & Coals from Winson Green to a Foundry supposed to be erected at Soho. Jun. 1795. 3 sheets. *Marked "For estimate of the quantity of cast iron executed for B&W in 1791, 1792, 1793 & 1794 see No. 4."*

MS 3147/3/551
MISCELLANEOUS MEMORANDA AND PAPERS
1770s—1790s

INTRODUCTION

Miscellaneous items found scattered through the collection, whose original location could not be identified. These items range from the 1770s to the 1790s. They include notes of other engineers' engines, experiments on engines, calculations etc.

1. Memorandum. 1776. (1 item)
Description of Mr. Beeche's engine.
2. Notes. 14 Dec. 1776. (1 item)
Experiment in the tower at Stratford Water Works.
3. Memorandum. 1778—1779. (1 item)
Calculations & deductions made from three experiments upon the old & new engines at Chelsea. Experiments on the old engine next the road, 15 May 1778; the old engine next the river, 24 May 1778; the new engine erected by Boulton & Watt, 6 Jul. 1779. Docketed "Calculations and Certificate of experiment... engines of... Copy sent to Mr... Sep. 3 1779."
4. Memorandum. 1778-1779. (1 item)
Particulars of three Experiments made with the Fire Engines at Chelsea on 15 May 1778, 24 May 1778 and 6 Jul. 1779. Signed by Zaccheus Walker and Peter Peill. In Walker's hand.
5. Memorandum. Joseph Rathbone & Co. to Boulton & Watt. c. 24 Jan. 1785. (1 item)
Lists savings from their engine from 1784-1785.
6. Memorandum by William Wilkinson. 20 Mar. 1786. (1 item)
Information on Indret Boring Mill. Docketed as 1787.
7. Transcript from St James's Chronicle. 12 Jun. 1787. (1 item)
Concerning Garbett, Boulton and copper.
8. Calculation re ? circa Nov. 1789. (1 item)
In James Watt's hand. Written on a scrap torn from a letter, which bears the postmark 28 Nov. 1789.

9. Calculations. 1791. 2pcs. (1 item)
Engine in Marshland. In James Watt's hand.
10. Memorandum. 11 May 1795. 2pcs. (1 item)
Experiments: Lee & Lawson. Experiments on the heat, evaporation and pressure of an engine, 1 Apr. 1793—31 Mar. 1795.
11. Receipt . William Rose to Boulton & Watt. 11 Sep. 1795. (1 item)
"For damages done to my land at Smethwick".
12. Table by G. Lee. 7 Dec. 1793—9 Dec. 1795. (1 item)
Experiments made with a Steam Engine constructed by Boulton & Watt, at Salford Cotton Mill.
Docketed "No. 11. George Lee's Experiments with Indicator."
13. Memorandum. 31 Oct. 1796. (1 item)
Concerning an engine at Kenton colliery.
14. Account. To James Woodruff & Co. 2 Jun. 1798. (1 item)
For repair of a carriage.
15. Memorandum by J[ohn] S[outhern]. 8 Dec. 1799. (1 item)
"Considerations relative to rotary engines moving in fluids."
16. Calculations for a pumping engine. Not dated. (1 item)
In Matthew Boulton's hand.
17. Memorandum. Not dated. (1 item)
Survey of the Land for a Reservoir. with total of acres, rods & perches of "Harborne Church Land, Baley's Blue School at Dudley, Spoie [?]." Reverse marked "Mr. Bentley at Mr. Lanes, Birm"
18. Memorandum with pen and wash drawings, by William Creighton (?) Not dated. (1 item)
Docketed "Communications from Mortimer. Suggestions for perfecting tooth'd wheels by cogs upon a new principle. Machine for forming the teeth of a true figure. Advantages of the proposed new teeth. A rectilinear motion produced from a crank motion."
19. Calculations and notes re: Hornblower's engine. Not dated. 2 pcs.
In Matthew Boulton's hand.
20. Draft of statement by John Southern. Not dated. (1 item)
Concerning the relative performances of Hornblower and Watt's engines in Cornwall.
21. Memorandum & calculations. Not dated. (1 item)
Flask Experiment.
22. Memorandum. Not dated. (1 item)
Particulars of pumps.
23. Sketch of the wheel race of a water mill. Not dated. (1 item)
With notes on an intended engine.

24. Printed proposals of George Goodman, engineer, for supplying the inhabitants of Dublin with water. Not dated. (1 item)
25. Note. Not dated. (1 item)
Concerning the reckoning of working days in winter and summer.
In James Watt jr. 's hand.
26. Note. Not dated. (1 item)
Concerning an unidentified canal, with questions about boats.
27. Calculations. Not dated. (1 item)
For Willington engine; Long Benton new engine; Denton engine; Shirermoor engine.
28. Memorandum. Not dated. (1 item)
Concerning Mr de Ballancourt 's experiments with steam power.
29. Memorandum by John Southern. Not dated. (1 item)
"Flint Mills. Speeds of the Pans ascertained by J. Southern & collected from the informat[ion] of sundry Persons."
30. Note. Not dated. (1 item)
" to the Bell inn Thomas Streat Bristol Pr. Boycees wagon to Mr Hoddinetts Factory Milton
".

MS 3147/3/552
MISCELLANEOUS MEMORANDA AND PAPERS
1800s—1830s

INTRODUCTION

Items found scattered through the collection whose original location could not be identified.

1. Sketch and description of an iron bridge at Bristol. 24 Feb. 1806. (1 item)
2. Memorandum. Portsmouth Dock Yard. Jan. 1813. (1 item)
" An account of the average quantity of new copper sheathing manufactured in one week at the Metal Mills and the expense of the Manufacturing. "
3. Memorandum. 27 May 1839. 2 pcs.
" Description of Mr. Watt 's Indicator and Feed Mouth as altered from the Copy sent to Mr. Watt in Paris. " In James Brown 's hand.
4. Dimensions of the large chimney at Stoke Prior and of various other chimneys. Not dated. c. Oct. 1839. 3pcs.
5. Drawings from Beale 's patents 1841, 1842. (1 item)
6. Tracing of table. Diagram showing the Resistance of railway trains of different weights and at different speeds. Not dated. (1 item)
7. Description of two engines at Livourne; sketch of engine; two notes with calculations by James Watt. In French. Not dated. 5 pcs.

8. Copy press drawing of beam, frame, and gudgeon for an unidentified engine. Not dated. (1 item)
9. Copy press description of experiments. Not dated. 3 pcs.
“Experiments relating to the practicability of weighing considerable weights in a boat suffering various degrees of agitation in different directions.”
10. Copy press drawing of part of an unidentified engine house and chimney. Not dated. (1 item)
11. Drawing of a barometer. Not dated. (1 item)
“a scheme for a barometer or vacuum gage”
12. Drawing of a mud stirrer. Not dated. (1 item)
13. Drawing of an engine. Not dated. (1 item)
“Sketch of an engine near Tipton blowing 3 furnaces”. Includes a water regulator.